



# UNIVERSAL BEAMS: Dimensions and Properties

Designation	Mass per Metre	Depth of Section h	Width of Section b	Thickness Web s	Thickness Flange t	Root Radius r	Depth between fillets d	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter u	Torsional Index x	Warping Constant H	Torsional Constant J	Area of Section
								Flange b/2t	Web d/s	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y					
610 x 229 x 140	139.9	617.2	230.2	13.1	22.1	12.7	547.6	5.21	41.8	111800	4505	25.0	5.03	3622	391	4142	611	0.875	30.6	3.99	216	178
610 x 229 x 125	125.1	612.2	229.0	11.9	19.6	12.7	547.6	5.84	46.0	98610	3932	24.9	4.97	3221	343	3676	535	0.873	34.1	3.45	154	159
610 x 229 x 113	113.0	607.6	228.2	11.1	17.3	12.7	547.6	6.60	49.3	87320	3434	24.6	4.88	2874	301	3281	469	0.870	38.0	2.99	111	144
610 x 229 x 101	101.2	602.6	227.6	10.5	14.8	12.7	547.6	7.69	52.2	75780	2915	24.2	4.75	2515	256	2881	400	0.864	43.1	2.52	77	129
533 x 210 x 122	122.0	544.5	211.9	12.7	21.3	12.7	476.5	4.97	37.5	76040	3388	22.1	4.67	2793	320	3196	500	0.877	27.6	2.32	178	155
533 x 210 x 109	109.0	539.5	210.8	11.6	18.8	12.7	476.5	5.61	41.1	66820	2943	21.9	4.60	2477	279	2828	436	0.875	30.9	1.99	126	139
533 x 210 x 101	101.0	536.7	210.0	10.8	17.4	12.7	476.5	6.03	44.1	61520	2692	21.9	4.57	2292	256	2612	399	0.874	33.2	1.81	101	129
533 x 210 x 92	92.1	533.1	209.3	10.1	15.6	12.7	476.5	6.71	47.2	55230	2389	21.7	4.51	2072	228	2360	356	0.872	36.5	1.60	75.7	117
533 x 210 x 82	82.2	528.3	208.8	9.6	13.2	12.7	476.5	7.91	49.6	47540	2007	21.3	4.38	1800	192	2059	300	0.864	41.6	1.33	51.5	105
457 x 191 x 98	98.3	467.2	192.8	11.4	19.6	10.2	407.6	4.92	35.8	45730	2347	19.1	4.33	1957	243	2232	379	0.881	25.7	1.18	121	125
457 x 191 x 89	89.3	463.4	191.9	10.5	17.7	10.2	407.6	5.42	38.8	41020	2089	19.0	4.29	1770	218	2014	338	0.880	28.3	1.04	90.7	114
457 x 191 x 82	82.0	460.0	191.3	9.9	16.0	10.2	407.6	5.98	41.2	37050	1871	18.8	4.23	1611	196	1831	304	0.877	30.9	0.922	69.2	104
457 x 191 x 74	74.3	457.0	190.4	9.0	14.5	10.2	407.6	6.57	45.3	33320	1671	18.8	4.20	1458	176	1653	272	0.877	33.9	0.818	51.8	94.6
457 x 191 x 67	67.1	453.4	189.9	8.5	12.7	10.2	407.6	7.48	48.0	29380	1452	18.5	4.12	1296	153	1471	237	0.872	37.9	0.705	37.1	85.5
457 x 152 x 82	82.1	465.8	155.3	10.5	18.9	10.2	407.6	4.11	38.8	36590	1185	18.7	3.37	1571	153	1811	240	0.873	27.4	0.591	89.2	105
457 x 152 x 74	74.2	462.0	154.4	9.6	17.0	10.2	407.6	4.54	42.5	32670	1047	18.6	3.33	1414	136	1627	213	0.873	30.1	0.518	65.9	94.5
457 x 152 x 67	67.2	458.0	153.8	9.0	15.0	10.2	407.6	5.13	45.3	28930	913	18.4	3.27	1263	119	1453	187	0.869	33.6	0.448	47.7	85.6
457 x 152 x 60	59.8	454.6	152.9	8.1	13.3	10.2	407.6	5.75	50.3	25500	795	18.3	3.23	1122	104	1287	163	0.868	37.5	0.387	33.8	76.2
457 x 152 x 52	52.3	449.8	152.4	7.6	10.9	10.2	407.6	6.99	53.6	21370	645	17.9	3.11	950	84.6	1096	133	0.859	43.9	0.311	21.4	66.6
406 x 178 x 74	74.2	412.8	179.5	9.5	16.0	10.2	360.4	5.61	37.9	27310	1545	17.0	4.04	1323	172	1501	267	0.882	27.6	0.608	62.8	94.5
406 x 178 x 67	67.1	409.4	178.8	8.8	14.3	10.2	360.4	6.25	41.0	24330	1365	16.9	3.99	1189	153	1346	237	0.880	30.5	0.533	46.1	85.5
406 x 178 x 60	60.1	406.4	177.9	7.9	12.8	10.2	360.4	6.95	45.6	21600	1203	16.8	3.97	1063	135	1199	209	0.880	33.8	0.466	33.3	76.5
406 x 178 x 54	54.1	402.6	177.7	7.7	10.9	10.2	360.4	8.15	46.8	18720	1021	16.5	3.85	930	115	1055	178	0.871	38.3	0.392	23.1	69.0
406 x 140 x 46	46.0	403.2	142.2	6.8	11.2	10.2	360.4	6.35	53.0	15690	538	16.4	3.03	778	75.7	888	118	0.871	38.9	0.207	19.0	58.6
406 x 140 x 39	39.0	398.0	141.8	6.4	8.6	10.2	360.4	8.24	56.3	12510	410	15.9	2.87	629	57.8	724	90.8	0.858	47.5	0.155	10.7	49.7
356 x 171 x 67	67.1	363.4	173.2	9.1	15.7	10.2	311.6	5.52	34.2	19460	1362	15.1	3.99	1071	157	1211	243	0.886	24.4	0.412	55.7	85.5
356 x 171 x 57	57.0	358.0	172.2	8.1	13.0	10.2	311.6	6.62	38.5	16040	1108	14.9	3.91	896	129	1010	199	0.882	28.8	0.330	33.4	72.6
356 x 171 x 51	51.0	355.0	171.5	7.4	11.5	10.2	311.6	7.46	42.1	14140	968	14.8	3.86	796	113	896	174	0.881	32.1	0.286	23.8	64.9
356 x 171 x 45	45.0	351.4	171.1	7.0	9.7	10.2	311.6	8.82	44.5	12070	811	14.5	3.76	687	94.8	775	147	0.874	36.8	0.237	15.8	57.3